SEQUENCE LISTING

<110> ROECKLIN, Dominique

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CHARLES, Marie-Helene

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SANTORO, Lyse

PERRON, Herve

<120> USE OF A POLYPEPTIDE FOR DETECTING, PREVENTING OR TREATING A PATHOLOGICAL CONDITION ASSOCIATED WITH A DEGENERATIVE, NEUROLOGICAL OR AUTOIMMUNE DISEASE

<130> 111664

<140> 10/030,937

<141> 2002-01-15

<150> PCT/FR00/02057
<151> 2000-07-17

<150> FR9909372
<151> 1999-07-15

<160> 75

<170> PatentIn Ver. 2.1

<210> 1
<211> 4393
<212> PRT
<213> Homo sapiens

<400> 1

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             20                  25                  30

Ser Leu Pro Glu Asp Ile Glu Thr Val Thr Ala Ser Gln Met Arg Trp
         35                  40                  45

Thr His Ser Tyr Leu Ser Asp Asp Glu Asp Met Leu Ala Asp Ser Ile
     50                  55                  60

Ser Gly Asp Asp Leu Gly Ser Gly Asp Leu Gly Ser Gly Asp Phe Gln
 65                  70                  75                  80

Met Val Tyr Phe Arg Ala Leu Val Asn Phe Thr Arg Ser Ile Glu Tyr
                 85                  90                  95

Ser Pro Gln Leu Glu Asp Ala Gly Ser Arg Glu Phe Arg Glu Val Ser
            100                 105                 110
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Glu Ala Val Val Asp Thr Leu Glu Ser Glu Tyr Leu Lys Ile Pro Gly
        115                 120                 125

Asp Gln Val Val Ser Val Val Phe Ile Lys Glu Leu Asp Gly Trp Val
    130                 135                 140

Phe Val Glu Leu Asp Val Gly Ser Glu Gly Asn Ala Asp Gly Ala Gln
145                 150                 155                 160

Ile Gln Glu Met Leu Leu Arg Val Ile Ser Ser Gly Ser Val Ala Ser
                165                 170                 175

Tyr Val Thr Ser Pro Gln Gly Phe Gln Phe Arg Arg Leu Gly Thr Val
            180                 185                 190

Pro Gln Phe Pro Arg Ala Cys Thr Glu Ala Glu Phe Ala Cys His Ser
        195                 200                 205

Tyr Asn Glu Cys Val Ala Leu Glu Tyr Arg Cys Asp Arg Arg Pro Asp
    210                 215                 220

Cys Arg Asp Met Ser Asp Glu Leu Asn Cys Glu Glu Pro Val Leu Gly
225                 230                 235                 240

Ile Ser Pro Thr Phe Ser Leu Leu Val Glu Thr Thr Ser Leu Pro Pro
                245                 250                 255

Arg Pro Glu Thr Thr Ile Met Arg Gln Pro Pro Val Thr His Ala Pro
            260                 265                 270

Gln Pro Leu Leu Pro Gly Ser Val Arg Pro Leu Pro Cys Gly Pro Gln
        275                 280                 285

Glu Ala Ala Cys Arg Asn Gly His Cys Ile Pro Arg Asp Tyr Leu Cys
    290                 295                 300

Asp Gly Gln Glu Asp Cys Glu Asp Gly Ser Asp Glu Leu Asp Cys Gly
305                 310                 315                 320

Pro Pro Pro Pro Cys Glu Pro Asn Glu Phe Pro Cys Gly Asn Gly His
                325                 330                 335

Cys Ala Leu Lys Leu Trp Arg Cys Asp Gly Asp Phe Asp Cys Glu Asp
            340                 345                 350

Arg Thr Asp Glu Ala Asn Cys Pro Thr Lys Arg Pro Glu Glu Val Cys
        355                 360                 365

Gly Pro Thr Gln Phe Arg Cys Val Ser Thr Asn Met Cys Ile Pro Ala
    370                 375                 380

Ser Phe His Cys Asp Glu Glu Ser Asp Cys Pro Asp Arg Ser Asp Glu
385                 390                 395                 400

Phe Gly Cys Met Pro Pro Gln Val Val Thr Pro Pro Arg Glu Ser Ile
                405                 410                 415

Gln Ala Ser Arg Gly Gln Thr Val Thr Phe Thr Cys Val Ala Ile Gly
            420                 425                 430
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Val Pro Ala Pro Phe Leu Ile Asn Trp Arg Leu Asn Trp Gly His Ile
        435                 440                 445

Pro Ser Gln Pro Arg Val Thr Val Thr Ser Glu Gly Gly Arg Gly Thr
    450                 455                 460

Leu Ile Ile Arg Asp Val Lys Glu Ser Asp Gln Gly Ala Tyr Thr Cys
465                 470                 475                 480

Glu Ala Met Asn Ala Arg Gly Met Val Phe Gly Ile Pro Asp Gly Val
                485                 490                 495

Leu Glu Leu Val Pro Gln Arg Ala Gly Pro Cys Pro Asp Gly His Phe
            500                 505                 510

Tyr Leu Glu His Ser Ala Ala Cys Leu Pro Cys Phe Cys Phe Gly Ile
        515                 520                 525

Thr Ser Val Cys Gln Ser Thr Arg Arg Phe Arg Asp Gln Ile Arg Leu
    530                 535                 540

Arg Phe Asp Gln Pro Asp Asp Phe Lys Gly Val Asn Val Thr Met Pro
545                 550                 555                 560

Ala Gln Pro Gly Thr Pro Pro Leu Ser Ser Thr Gln Leu Gln Ile Asp
                565                 570                 575

Pro Ser Leu His Glu Phe Gln Leu Val Asp Leu Ser Arg Arg Phe Leu
            580                 585                 590

Val His Asp Ser Phe Trp Ala Leu Pro Glu Gln Phe Leu Gly Asn Lys
        595                 600                 605

Val Asp Ser Tyr Gly Gly Ser Leu Arg Tyr Asn Val Arg Tyr Glu Leu
    610                 615                 620

Ala Arg Gly Met Leu Glu Pro Val Gln Arg Pro Asp Val Val Leu Val
625                 630                 635                 640

Gly Ala Gly Tyr Arg Leu Leu Ser Arg Gly His Thr Pro Thr Gln Pro
                645                 650                 655

Gly Ala Leu Asn Gln Arg Gln Val Gln Phe Ser Glu Glu His Trp Val
            660                 665                 670

His Glu Ser Gly Arg Pro Val Gln Arg Ala Glu Leu Leu Gln Val Leu
        675                 680                 685

Gln Ser Leu Glu Ala Val Leu Ile Gln Thr Val Tyr Asn Thr Lys Met
    690                 695                 700

Ala Ser Val Gly Leu Ser Asp Ile Ala Met Asp Thr Thr Val Thr His
705                 710                 715                 720

Ala Thr Ser His Gly Arg Ala His Ser Val Glu Glu Cys Arg Cys Pro
                725                 730                 735

Ile Gly Tyr Ser Gly Leu Ser Cys Glu Ser Cys Asp Ala His Phe Thr
            740                 745                 750

Arg Val Pro Gly Gly Pro Tyr Leu Gly Thr Cys Ser Gly Cys Ser Cys
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        755                 760                 765

Asn Gly His Ala Ser Ser Cys Asp Pro Val Tyr Gly His Cys Leu Asn
    770                 775                 780

Cys Gln His Asn Thr Glu Gly Pro Gln Cys Lys Lys Cys Lys Ala Gly
785                 790                 795                 800

Phe Phe Gly Asp Ala Met Lys Ala Thr Ala Thr Ser Cys Arg Pro Cys
                805                 810                 815

Pro Cys Pro Tyr Ile Asp Ala Ser Arg Arg Phe Ser Asp Thr Cys Phe
            820                 825                 830

Leu Asp Thr Asp Gly Gln Ala Thr Cys Asp Ala Cys Ala Pro Gly Tyr
        835                 840                 845

Thr Gly Arg Arg Cys Glu Ser Cys Ala Pro Gly Tyr Glu Gly Asn Pro
    850                 855                 860

Ile Gln Pro Gly Gly Lys Cys Arg Pro Val Asn Gln Glu Ile Val Arg
865                 870                 875                 880

Cys Asp Glu Arg Gly Ser Met Gly Thr Ser Gly Glu Ala Cys Arg Cys
                885                 890                 895

Lys Asn Asn Val Val Gly Arg Leu Cys Asn Glu Cys Ala Asp Arg Ser
            900                 905                 910

Phe His Leu Ser Thr Arg Asn Pro Asp Gly Cys Leu Lys Cys Phe Cys
        915                 920                 925

Met Gly Val Ser Arg His Cys Thr Ser Ser Ser Trp Ser Arg Ala Gln
    930                 935                 940

Leu His Gly Ala Ser Glu Glu Pro Gly His Phe Ser Leu Thr Asn Ala
945                 950                 955                 960

Ala Ser Thr His Thr Thr Asn Glu Gly Ile Phe Ser Pro Thr Pro Gly
                965                 970                 975

Glu Leu Gly Phe Ser Ser Phe His Arg Leu Leu Ser Gly Pro Tyr Phe
            980                 985                 990

Trp Ser Leu Pro Ser Arg Phe Leu Gly Asp Lys Val Thr Ser Tyr Gly
        995                1000                1005

Gly Glu Leu Arg Phe Thr Val Thr Gln Arg Ser Gln Pro Gly Ser Thr
   1010                1015                1020

Pro Leu His Gly Gln Pro Leu Val Val Leu Gln Gly Asn Asn Ile Ile
1025                1030                1035                1040

Leu Glu His His Val Ala Gln Glu Pro Ser Pro Gly Gln Pro Ser Thr
                1045                1050                1055

Phe Ile Val Pro Phe Arg Glu Gln Ala Trp Gln Arg Pro Asp Gly Gln
            1060                1065                1070

Pro Ala Thr Arg Glu His Leu Leu Met Ala Leu Ala Gly Ile Asp Thr
        1075                1080                1085
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Leu Leu Ile Arg Ala Ser Tyr Ala Gln Gln Pro Ala Glu Ser Arg Val
   1090                1095                1100

Ser Gly Ile Ser Met Asp Val Ala Val Pro Glu Glu Thr Gly Gln Asp
1105                1110                1115                1120

Pro Ala Leu Glu Val Glu Gln Cys Ser Cys Pro Pro Gly Tyr Arg Gly
               1125                1130                1135

Pro Ser Cys Gln Asp Cys Asp Thr Gly Tyr Thr Arg Thr Pro Ser Gly
           1140                1145                1150

Leu Tyr Leu Gly Thr Cys Glu Arg Cys Ser Cys His Gly His Ser Glu
       1155                1160                1165

Ala Cys Glu Pro Glu Thr Gly Ala Cys Gln Gly Cys Gln His His Thr
   1170                1175                1180

Glu Gly Pro Arg Cys Glu Gln Cys Gln Pro Gly Tyr Tyr Gly Asp Ala
1185                1190                1195                1200

Gln Arg Gly Thr Pro Gln Asp Cys Gln Leu Cys Pro Cys Tyr Gly Asp
               1205                1210                1215

Pro Ala Ala Gly Gln Ala Ala His Thr Cys Phe Leu Asp Thr Asp Gly
           1220                1225                1230

His Pro Thr Cys Asp Ala Cys Ser Pro Gly His Ser Gly Arg His Cys
       1235                1240                1245

Glu Arg Cys Ala Pro Gly Tyr Tyr Gly Asn Pro Ser Gln Gly Gln Pro
   1250                1255                1260

Cys Gln Arg Asp Ser Gln Val Pro Gly Pro Ile Gly Cys Asn Cys Asp
1265                1270                1275                1280

Pro Gln Gly Ser Val Ser Ser Gln Cys Asp Ala Ala Gly Gln Cys Gln
               1285                1290                1295

Cys Lys Ala Gln Val Glu Gly Leu Thr Cys Ser His Cys Arg Pro His
           1300                1305                1310

His Phe His Leu Ser Ala Ser Asn Pro Asp Gly Cys Leu Pro Cys Phe
       1315                1320                1325

Cys Met Gly Ile Thr Gln Gln Cys Ala Ser Ser Ala Tyr Thr Arg His
   1330                1335                1340

Leu Ile Ser Thr His Phe Ala Pro Gly Asp Phe Gln Gly Phe Ala Leu
1345                1350                1355                1360

Val Asn Pro Gln Arg Asn Ser Arg Leu Thr Gly Glu Phe Thr Val Glu
               1365                1370                1375

Pro Val Pro Glu Gly Ala Gln Leu Ser Phe Gly Asn Phe Ala Gln Leu
           1380                1385                1390

Gly His Glu Ser Phe Tyr Trp Gln Leu Pro Glu Thr Tyr Gln Gly Asp
       1395                1400                1405
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Lys Val Ala Ala Tyr Gly Gly Lys Leu Arg Tyr Thr Leu Ser Tyr Thr
1410 1415 1420

Ala Gly Pro Gln Gly Ser Pro Leu Ser Asp Pro Asp Val Gln Ile Thr
1425 1430 1435 1440

Gly Asn Asn Ile Met Leu Val Ala Ser Gln Pro Ala Leu Gln Gly Pro
1445 1450 1455

Glu Arg Arg Ser Tyr Glu Ile Met Phe Arg Glu Glu Phe Trp Arg Arg
1460 1465 1470

Pro Asp Gly Gln Pro Ala Thr Arg Glu His Leu Leu Met Ala Leu Ala
1475 1480 1485

Asp Leu Asp Glu Leu Leu Ile Arg Ala Thr Phe Ser Ser Val Pro Leu
1490 1495 1500

Val Ala Ser Ile Ser Ala Val Ser Leu Glu Val Ala Gln Pro Gly Pro
1505 1510 1515 1520

Ser Asn Arg Pro Arg Ala Leu Glu Val Glu Glu Cys Arg Cys Pro Pro
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Gly Tyr Ile Gly Leu Ser Cys Gln Asp Cys Ala Pro Gly Tyr Thr Arg
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Thr Gly Ser Gly Leu Tyr Leu Gly His Cys Glu Leu Cys Glu Cys Asn
1555 1560 1565

Gly His Ser Asp Leu Cys His Pro Glu Thr Gly Ala Cys Ser Gln Cys
1570 1575 1580

Gln His Asn Ala Ala Gly Glu Phe Cys Glu Leu Cys Ala Pro Gly Tyr
1585 1590 1595 1600

Tyr Gly Asp Ala Thr Ala Gly Thr Pro Glu Asp Cys Gln Pro Cys Ala
1605 1610 1615

Cys Pro Leu Thr Asn Pro Glu Asn Met Phe Ser Arg Thr Cys Glu Ser
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Leu Gly Ala Gly Gly Tyr Arg Cys Thr Ala Cys Glu Pro Gly Tyr Thr
1635 1640 1645

Gly Gln Tyr Cys Glu Gln Cys Gly Pro Gly Tyr Val Gly Asn Pro Ser
1650 1655 1660

Val Gln Gly Gly Gln Cys Leu Pro Glu Thr Asn Gln Ala Pro Leu Val
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Val Glu Val His Pro Ala Arg Ser Ile Val Pro Gln Gly Gly Ser His
1685 1690 1695

Ser Leu Arg Cys Gln Val Ser Gly Arg Gly Pro His Tyr Phe Tyr Trp
1700 1705 1710

Ser Arg Glu Asp Gly Arg Pro Val Pro Ser Gly Thr Gln Gln Arg His
1715 1720 1725

Gln Gly Ser Glu Leu His Phe Pro Ser Val Gln Pro Ser Asp Ala Gly

1730 1735 1740

Val Tyr Ile Cys Thr Cys Arg Asn Leu His Arg Ser Asn Thr Ser Arg
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Ala Glu Leu Leu Val Thr Glu Ala Pro Ser Lys Pro Ile Thr Val Thr
1765 1770 1775

Val Glu Glu Gln Arg Ser Gln Ser Val Arg Pro Gly Ala Asp Val Thr
1780 1785 1790

Phe Ile Cys Thr Ala Lys Ser Lys Ser Pro Ala Tyr Thr Leu Val Trp
1795 1800 1805

Thr Arg Leu His Asn Gly Lys Leu Pro Thr Arg Ala Met Asp Phe Asn
1810 1815 1820

Gly Ile Leu Thr Ile Arg Asn Val Gln Leu Ser Asp Ala Gly Thr Tyr
1825 1830 1835 1840

Val Cys Thr Gly Ser Asn Met Phe Ala Met Asp Gln Gly Thr Ala Thr
1845 1850 1855

Leu His Val Gln Ala Ser Gly Thr Leu Ser Ala Pro Val Val Ser Ile
1860 1865 1870

His Pro Pro Gln Leu Thr Val Gln Pro Gly Gln Leu Ala Glu Phe Arg
1875 1880 1885

Cys Ser Ala Thr Gly Ser Pro Thr Pro Thr Leu Glu Trp Thr Gly Gly
1890 1895 1900

Pro Gly Gly Gln Leu Pro Ala Lys Ala Gln Ile His Gly Gly Ile Leu
1905 1910 1915 1920

Arg Leu Pro Ala Val Glu Pro Thr Asp Gln Ala Gln Tyr Leu Cys Arg
1925 1930 1935

Ala His Ser Ser Ala Gly Gln Gln Val Ala Arg Ala Val Leu His Val
1940 1945 1950

His Gly Gly Gly Gly Pro Arg Val Gln Val Ser Pro Glu Arg Thr Gln
1955 1960 1965

Val His Ala Gly Arg Thr Val Arg Leu Tyr Cys Arg Ala Ala Gly Val
1970 1975 1980

Pro Ser Ala Thr Ile Thr Trp Arg Lys Glu Gly Gly Ser Leu Pro Pro
1985 1990 1995 2000

Gln Ala Arg Ser Glu Arg Thr Asp Ile Ala Thr Leu Leu Ile Pro Ala
2005 2010 2015

Ile Thr Thr Ala Asp Ala Gly Phe Tyr Leu Cys Val Ala Thr Ser Pro
2020 2025 2030

Ala Gly Thr Ala Gln Ala Arg Ile Gln Val Val Val Leu Ser Ala Ser
2035 2040 2045

Asp Ala Ser Gln Pro Pro Val Lys Ile Glu Ser Ser Ser Pro Ser Val
2050 2055 2060

Thr Glu Gly Gln Thr Leu Asp Leu Asn Cys Val Val Ala Gly Ser Ala
2065 2070 2075 2080

His Ala Gln Val Thr Trp Tyr Arg Arg Gly Gly Ser Leu Pro His His
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Thr Gln Val His Gly Ser Arg Leu Arg Leu Pro Gln Val Ser Pro Ala
2100 2105 2110

Asp Ser Gly Glu Tyr Val Cys Arg Val Glu Asn Gly Ser Gly Pro Lys
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Glu Ala Ser Ile Thr Val Ser Val Leu His Gly Thr His Ser Gly Pro
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Ser Tyr Thr Pro Val Pro Gly Ser Thr Arg Pro Ile Arg Ile Glu Pro
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Ser Ser Ser His Val Ala Glu Gly Gln Thr Leu Asp Leu Asn Cys Val
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Val Pro Gly Gln Ala His Ala Gln Val Thr Trp His Lys Arg Gly Gly
2180 2185 2190

Ser Leu Pro Ala Arg His Gln Thr His Gly Ser Leu Leu Arg Leu His
2195 2200 2205

Gln Val Thr Pro Ala Asp Ser Gly Glu Tyr Val Cys His Val Val Gly
2210 2215 2220

Thr Ser Gly Pro Leu Glu Ala Ser Val Leu Val Thr Ile Glu Ala Ser
2225 2230 2235 2240

Val Ile Pro Gly Pro Ile Pro Pro Val Arg Ile Glu Ser Ser Ser Ser
2245 2250 2255

Thr Val Ala Glu Gly Gln Thr Leu Asp Leu Ser Cys Val Val Ala Gly
2260 2265 2270

Gln Ala His Ala Gln Val Thr Trp Tyr Lys Arg Gly Gly Ser Leu Pro
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Ala Arg His Gln Val Arg Gly Ser Arg Leu Tyr Ile Phe Gln Ala Ser
2290 2295 2300

Pro Ala Asp Ala Gly Gln Tyr Val Cys Arg Ala Ser Asn Gly Met Glu
2305 2310 2315 2320

Ala Ser Ile Thr Val Thr Val Thr Gly Thr Gln Gly Ala Asn Leu Ala
2325 2330 2335

Tyr Pro Ala Gly Ser Thr Gln Pro Ile Arg Ile Glu Pro Ser Ser Ser
2340 2345 2350

Gln Val Ala Glu Gly Gln Thr Leu Asp Leu Asn Cys Val Val Pro Gly
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Gln Ser His Ala Gln Val Thr Trp His Lys Arg Gly Gly Ser Leu Pro
2370 2375 2380

Val Arg His Gln Thr His Gly Ser Leu Leu Arg Leu Tyr Gln Ala Ser
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Pro Ala Asp Ser Gly Glu Tyr Val Cys Arg Val Leu Gly Ser Ser Val
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Pro Leu Glu Ala Ser Val Leu Val Thr Ile Glu Pro Ala Gly Ser Val
2420 2425 2430

Pro Ala Leu Gly Val Thr Pro Thr Val Arg Ile Glu Ser Ser Ser Ser
2435 2440 2445

Gln Val Ala Glu Gly Gln Thr Leu Asp Leu Asn Cys Leu Val Ala Gly
2450 2455 2460

Gln Ala His Ala Gln Val Thr Trp His Lys Arg Gly Gly Ser Leu Pro
2465 2470 2475 2480

Ala Arg His Gln Val His Gly Ser Arg Leu Arg Leu Leu Gln Val Thr
2485 2490 2495

Pro Ala Asp Ser Gly Glu Tyr Val Cys Arg Val Val Gly Ser Ser Gly
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Thr Gln Glu Ala Ser Val Leu Val Thr Ile Gln Gln Arg Leu Ser Gly
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Ser His Ser Gln Gly Val Ala Tyr Pro Val Arg Ile Glu Ser Ser Ser
2530 2535 2540

Ala Ser Leu Ala Asn Gly His Thr Leu Asp Leu Asn Cys Leu Val Ala
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Ser Gln Ala Pro His Thr Ile Thr Trp Tyr Lys Arg Gly Gly Ser Leu
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Pro Ser Arg His Gln Ile Val Gly Ser Arg Leu Arg Ile Pro Gln Val
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Thr Pro Ala Asp Ser Gly Glu Tyr Val Cys His Val Ser Asn Gly Ala
2595 2600 2605

Gly Ser Arg Glu Thr Ser Leu Ile Val Thr Ile Gln Gly Ser Gly Ser
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Ser His Val Pro Arg Val Ser Pro Pro Ile Arg Ile Glu Ser Ser Ser
2625 2630 2635 2640

Pro Thr Val Val Glu Gly Gln Thr Leu Asp Leu Asn Cys Val Val Ala
2645 2650 2655

Arg Gln Pro Gln Ala Ile Ile Thr Trp Tyr Lys Arg Gly Gly Ser Leu
2660 2665 2670

Pro Ser Arg His Gln Thr His Gly Ser His Leu Arg Leu His Gln Met
2675 2680 2685

Ser Val Ala Asp Ser Gly Glu Tyr Val Cys Arg Ala Asn Asn Asn Ile
2690 2695 2700

Asp Ala Leu Glu Ala Ser Ile Val Ile Ser Val Ser Pro Ser Ala Gly

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Ser Pro Ser Ala Pro Gly Ser Ser Met Pro Ile Arg Ile Glu Ser Ser
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Ser Ser His Val Ala Glu Gly Glu Thr Leu Asp Leu Asn Cys Val Val
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Pro Gly Gln Ala His Ala Gln Val Thr Trp His Lys Arg Gly Gly Ser
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Leu Pro Ser Tyr His Gln Thr Arg Gly Ser Arg Leu Arg Leu His His
2770 2775 2780

Val Ser Pro Ala Asp Ser Gly Glu Tyr Val Cys Arg Val Met Gly Ser
2785 2790 2795 2800

Ser Gly Pro Leu Glu Ala Ser Val Leu Val Thr Ile Glu Ala Ser Gly
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Ser Ser Ala Val His Val Pro Ala Pro Gly Gly Ala Pro Pro Ile Arg
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Ile Glu Pro Ser Ser Ser Arg Val Ala Glu Gly Gln Thr Leu Asp Leu
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Lys Cys Val Val Pro Gly Gln Ala His Ala Gln Val Thr Trp His Lys
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Arg Gly Gly Asn Leu Pro Ala Arg His Gln Val His Gly Pro Leu Leu
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Arg Leu Asn Gln Val Ser Pro Ala Asp Ser Gly Glu Tyr Ser Cys Gln
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Glu Pro Ser Ser Pro Gly Pro Ile Pro Ala Pro Gly Leu Ala Gln Pro
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Ile Tyr Ile Glu Ala Ser Ser Ser His Val Thr Glu Gly Gln Thr Leu
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Asp Leu Asn Cys Val Val Pro Gly Gln Ala His Ala Gln Val Thr Trp
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Gln Leu Arg Leu His His Val Ser Pro Ala Asp Ser Gly Glu Tyr Val
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Cys Arg Ala Ala Gly Gly Pro Gly Pro Glu Gln Glu Ala Ser Phe Thr
2995 3000 3005

Val Thr Val Pro Pro Ser Glu Gly Ser Ser Tyr Arg Leu Arg Ser Pro
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Val Ile Ser Ile Asp Pro Pro Ser Ser Thr Val Gln Gln Gly Gln Asp
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Ala Ser Phe Lys Cys Leu Ile His Asp Gly Ala Ala Pro Ile Ser Leu
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Glu Trp Lys Thr Arg Asn Gln Glu Leu Glu Asp Asn Val His Ile Ser
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Pro Asn Gly Ser Ile Ile Thr Ile Val Gly Thr Arg Pro Ser Asn His
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Gly Thr Tyr Arg Cys Val Ala Ser Asn Ala Tyr Gly Val Ala Gln Ser
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Val Ser Ala Gly Glu Pro Arg Ser Ser Ala Arg Trp Thr Arg Ile Ser
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Gln Ala Glu Glu Ala Glu Leu Thr Val Glu Ala Gly His Thr Ala Thr
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Asn Ala Thr Ser Pro Ala Gly His Ala Glu Ala Thr Ile Ile Leu His
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Val Glu Ser Pro Pro Tyr Ala Thr Thr Val Pro Glu His Ala Ser Val
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Gln Ala Gly Glu Thr Val Gln Leu Gln Cys Leu Ala His Gly Thr Pro
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Pro Leu Thr Phe Gln Trp Ser Arg Val Gly Ser Ser Leu Pro Gly Arg
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Ala Thr Ala Arg Asn Glu Leu Leu His Phe Glu Arg Ala Ala Pro Glu
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Asp Ser Gly Arg Tyr Arg Cys Arg Val Thr Asn Lys Val Gly Ser Ala
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Glu Ala Phe Ala Gln Leu Leu Val Gln Gly Pro Pro Gly Ser Leu Pro
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Asn Leu Asp Gln Ser Cys Gln Gly Thr Tyr Ile Cys Gln Ala His Gly
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Pro Trp Gly Lys Ala Gln Ala Ser Ala Gln Leu Val Ile Gln Ala Leu
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Pro Ser Val Leu Ile Asn Ile Arg Thr Ser Val Gln Thr Val Val Val
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Gly His Ala Val Glu Phe Glu Cys Leu Ala Leu Gly Asp Pro Lys Pro
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Gln Val Thr Trp Ser Lys Val Gly Gly His Leu Arg Pro Gly Ile Val
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Gln Ser Gly Gly Val Val Arg Ile Ala His Val Glu Leu Ala Asp Ala
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Gly Gln Tyr Arg Cys Thr Ala Thr Asn Ala Ala Gly Thr Thr Gln Ser
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His Val Leu Leu Leu Val Gln Ala Leu Pro Gln Ile Ser Met Pro Gln
3570 3575 3580

Glu Val Arg Val Pro Ala Gly Ser Ala Ala Val Phe Pro Cys Ile Ala
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Ser Gly Tyr Pro Thr Pro Asp Ile Ser Trp Ser Lys Leu Asp Gly Ser
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Leu Pro Pro Asp Ser Arg Leu Glu Asn Asn Met Leu Met Leu Pro Ser
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Val Gln Pro Gln Asp Ala Gly Thr Tyr Val Cys Thr Ala Thr Asn Arg
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Gln Gly Lys Val Lys Ala Phe Ala His Leu Gln Val Pro Glu Arg Val
3650 3655 3660

Val Pro Tyr Phe Thr Gln Thr Pro Tyr Ser Phe Leu Pro Leu Pro Thr
3665 3670 3675 3680

Ile Lys Asp Ala Tyr Arg Lys Phe Glu Ile Lys Ile Thr Phe Arg Pro

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                3685                3690                3695

Asp Ser Ala Asp Gly Met Leu Leu Tyr Asn Gly Gln Lys Arg Val Pro
            3700                3705                3710

Gly Ser Pro Thr Asn Leu Ala Asn Arg Gln Pro Asp Phe Ile Ser Phe
        3715                3720                3725

Gly Leu Val Gly Gly Arg Pro Glu Phe Arg Phe Asp Ala Gly Ser Gly
    3730                3735                3740

Met Ala Thr Ile Arg His Pro Thr Pro Leu Ala Leu Gly His Phe His
3745                3750                3755                3760

Thr Val Thr Leu Leu Arg Ser Leu Thr Gln Gly Ser Leu Ile Val Gly
                3765                3770                3775

Asp Leu Ala Pro Val Asn Gly Thr Ser Gln Gly Lys Phe Gln Gly Leu
            3780                3785                3790

Asp Leu Asn Glu Glu Leu Tyr Leu Gly Gly Tyr Pro Asp Tyr Gly Ala
        3795                3800                3805

Ile Pro Lys Ala Gly Leu Ser Ser Gly Phe Ile Gly Cys Val Arg Glu
    3810                3815                3820

Leu Arg Ile Gln Gly Glu Glu Ile Val Phe His Asp Leu Asn Leu Thr
3825                3830                3835                3840

Ala His Gly Ile Ser His Cys Pro Thr Cys Arg Asp Arg Pro Cys Gln
                3845                3850                3855

Asn Gly Gly Gln Cys His Asp Ser Glu Ser Ser Ser Tyr Val Cys Val
            3860                3865                3870

Cys Pro Ala Gly Phe Thr Gly Ser Arg Cys Glu His Ser Gln Ala Leu
        3875                3880                3885

His Cys His Pro Glu Ala Cys Gly Pro Asp Ala Thr Cys Val Asn Arg
    3890                3895                3900

Pro Asp Gly Arg Gly Tyr Thr Cys Arg Cys His Leu Gly Arg Ser Gly
3905                3910                3915                3920

Leu Arg Cys Glu Glu Gly Val Thr Val Thr Thr Pro Ser Leu Ser Gly
                3925                3930                3935

Ala Gly Ser Tyr Leu Ala Leu Pro Ala Leu Thr Asn Thr His His Glu
            3940                3945                3950

Leu Arg Leu Asp Val Glu Phe Lys Pro Leu Ala Pro Asp Gly Val Leu
        3955                3960                3965

Leu Phe Ser Gly Gly Lys Ser Gly Pro Val Glu Asp Phe Val Ser Leu
    3970                3975                3980

Ala Met Val Gly Gly His Leu Glu Phe Arg Tyr Glu Leu Gly Ser Gly
3985                3990                3995                4000

Leu Ala Val Leu Arg Thr Ala Glu Pro Leu Ala Leu Gly Arg Trp His
                4005                4010                4015
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Arg Val Ser Ala Glu Arg Leu Asn Lys Asp Gly Ser Leu Arg Val Asn
4020 4025 4030

Gly Gly Arg Pro Val Leu Arg Ser Ser Pro Gly Lys Ser Gln Gly Leu
4035 4040 4045

Asn Leu His Thr Leu Leu Tyr Leu Gly Gly Val Glu Pro Ser Val Pro
4050 4055 4060

Leu Ser Pro Ala Thr Asn Met Ser Ala His Phe Arg Gly Cys Val Gly
4065 4070 4075 4080

Glu Val Ser Val Asn Gly Lys Arg Leu Asp Leu Thr Tyr Ser Phe Leu
4085 4090 4095

Gly Ser Gln Gly Ile Gly Gln Cys Tyr Asp Ser Ser Pro Cys Glu Arg
4100 4105 4110

Gln Pro Cys Gln His Gly Ala Thr Cys Met Pro Ala Gly Glu Tyr Glu
4115 4120 4125

Phe Gln Cys Leu Cys Arg Asp Gly Ile Lys Gly Asp Leu Cys Glu His
4130 4135 4140

Glu Glu Asn Pro Cys Gln Leu Arg Glu Pro Cys Leu His Gly Gly Thr
4145 4150 4155 4160

Cys Gln Gly Thr Arg Cys Leu Cys Leu Pro Gly Phe Ser Gly Pro Arg
4165 4170 4175

Cys Gln Gln Gly Ser Gly His Gly Ile Ala Glu Ser Asp Trp His Leu
4180 4185 4190

Glu Gly Ser Gly Gly Asn Asp Ala Pro Gly Gln Tyr Gly Ala Tyr Phe
4195 4200 4205

His Asp Asp Gly Phe Leu Ala Phe Pro Gly His Val Phe Ser Arg Ser
4210 4215 4220

Leu Pro Glu Val Pro Glu Thr Ile Glu Leu Glu Val Arg Thr Ser Thr
4225 4230 4235 4240

Ala Ser Gly Leu Leu Leu Trp Gln Gly Val Glu Val Gly Glu Ala Gly
4245 4250 4255

Gln Gly Lys Asp Phe Ile Ser Leu Gly Leu Gln Asp Gly His Leu Val
4260 4265 4270

Phe Arg Tyr Gln Leu Gly Ser Gly Glu Ala Arg Leu Val Ser Glu Asp
4275 4280 4285

Pro Ile Asn Asp Gly Glu Trp His Arg Val Thr Ala Leu Arg Glu Gly
4290 4295 4300

Arg Arg Gly Ser Ile Gln Val Asp Gly Glu Glu Leu Val Ser Gly Arg
4305 4310 4315 4320

Ser Pro Gly Pro Asn Val Ala Val Asn Ala Lys Gly Ser Ile Tyr Ile
4325 4330 4335

```
Gly Gly Ala Pro Asp Val Ala Thr Leu Thr Gly Gly Arg Phe Ser Ser
          4340                4345                4350

Gly Ile Thr Gly Cys Val Lys Asn Leu Val Leu His Ser Ala Arg Pro
       4355                4360                4365

Gly Ala Pro Pro Pro Gln Pro Leu Asp Leu Gln His Arg Ala Gln Ala
   4370                4375                4380

Gly Ala Asn Thr Arg Pro Cys Pro Ser
4385                4390
```

<210> 2
<211> 195
<212> PRT
<213> Homo sapiens

<400> 2

```
Asp Ala Pro Gly Gln Tyr Gly Ala Tyr Phe His Asp Asp Gly Phe Leu
  1               5                  10                  15

Ala Phe Pro Gly His Val Phe Ser Arg Ser Leu Pro Glu Val Pro Glu
            20                  25                  30

Thr Ile Glu Leu Glu Val Arg Thr Ser Thr Ala Ser Gly Leu Leu Leu
        35                  40                  45

Trp Gln Gly Val Glu Val Gly Glu Ala Gly Gln Gly Lys Asp Phe Ile
    50                  55                  60

Ser Leu Gly Leu Gln Asp Gly His Leu Val Phe Arg Tyr Gln Leu Gly
65                  70                  75                  80

Ser Gly Glu Ala Arg Leu Val Ser Glu Asp Pro Ile Asn Asp Gly Glu
                85                  90                  95

Trp His Arg Val Thr Ala Leu Arg Glu Gly Arg Arg Gly Ser Ile Gln
            100                 105                 110

Val Asp Gly Glu Glu Leu Val Ser Gly Arg Ser Pro Gly Pro Asn Val
        115                 120                 125

Ala Val Asn Ala Lys Gly Ser Val Tyr Ile Gly Gly Ala Pro Asp Val
    130                 135                 140

Ala Thr Leu Thr Gly Gly Arg Phe Ser Ser Gly Ile Thr Gly Cys Val
145                 150                 155                 160

Lys Asn Leu Val Leu His Ser Ala Arg Pro Gly Ala Pro Pro Pro Gln
                165                 170                 175

Pro Leu Asp Leu Gln His Arg Ala Gln Ala Gly Ala Asn Thr Arg Pro
            180                 185                 190

Cys Pro Ser
        195
```

<210> 3
<211> 508

<212> PRT
<213> Homo sapiens

<400> 3

```
Arg Thr Cys Arg Cys Lys Asn Asn Val Val Gly Arg Leu Cys Asn Glu
  1               5                  10                  15

Cys Ala Asp Arg Ser Phe His Leu Ser Thr Arg Asn Pro Asp Gly Cys
             20                  25                  30

Leu Lys Cys Phe Cys Met Gly Val Ser Arg His Cys Thr Ser Ser Ser
         35                  40                  45

Trp Ser Arg Ala Gln Leu His Gly Ala Ser Glu Glu Pro Gly His Phe
     50                  55                  60

Ser Leu Thr Asn Ala Ala Ser Thr His Thr Thr Asn Glu Gly Ile Phe
 65                  70                  75                  80

Ser Pro Thr Pro Gly Glu Leu Gly Phe Ser Ser Phe His Arg Leu Leu
                 85                  90                  95

Ser Gly Pro Tyr Phe Trp Ser Leu Pro Ser Arg Phe Leu Gly Asp Lys
            100                 105                 110

Val Thr Ser Tyr Gly Gly Glu Leu Arg Phe Thr Val Thr Gln Arg Ser
        115                 120                 125

Gln Pro Gly Ser Thr Pro Leu His Gly Gln Pro Leu Val Val Leu Gln
    130                 135                 140

Gly Asn Asn Ile Ile Leu Glu His His Val Ala Gln Glu Pro Ser Pro
145                 150                 155                 160

Gly Gln Pro Ser Thr Phe Ile Val Pro Phe Arg Glu Gln Ala Trp Gln
                165                 170                 175

Arg Pro Asp Gly Gln Pro Ala Thr Arg Glu His Leu Leu Met Ala Leu
            180                 185                 190

Ala Gly Ile Asp Thr Leu Leu Ile Arg Ala Ser Tyr Ala Gln Gln Pro
        195                 200                 205

Ala Glu Ser Arg Leu Ser Gly Ile Ser Met Asp Val Ala Val Pro Glu
    210                 215                 220

Glu Thr Gly Gln Asp Pro Ala Leu Glu Val Glu Gln Cys Ser Cys Pro
225                 230                 235                 240

Pro Gly Tyr Leu Gly Pro Ser Cys Gln Asp Cys Asp Thr Gly Tyr Thr
                245                 250                 255

Arg Thr Pro Ser Gly Leu Tyr Leu Gly Thr Cys Glu Arg Cys Ser Cys
            260                 265                 270

His Gly His Ser Glu Ala Cys Glu Pro Glu Thr Gly Ala Cys Gln Gly
        275                 280                 285

Cys Gln His His Thr Glu Gly Pro Arg Cys Glu Gln Cys Gln Pro Gly
    290                 295                 300
```

```
Tyr Tyr Gly Asp Ala Gln Arg Gly Thr Pro Gln Asp Cys Gln Leu Cys
305                 310                 315                 320

Pro Cys Tyr Gly Asp Pro Ala Ala Gly Gln Ala Ala Leu Thr Cys Phe
                325                 330                 335

Leu Asp Thr Asp Gly His Pro Thr Cys Asp Ala Cys Ser Pro Gly His
            340                 345                 350

Ser Gly Arg His Cys Glu Arg Cys Ala Pro Gly Tyr Tyr Gly Asn Pro
        355                 360                 365

Ser Gln Gly Gln Pro Cys Gln Arg Asp Ser Gln Val Pro Gly Pro Ile
    370                 375                 380

Gly Cys Asn Cys Asp Pro Gln Gly Ser Val Ser Ser Gln Cys Asp Ala
385                 390                 395                 400

Ala Gly Gln Cys Gln Cys Lys Ala Gln Val Glu Gly Leu Thr Cys Ser
                405                 410                 415

His Cys Arg Pro His His Phe His Leu Ser Ala Ser Asn Pro Asp Gly
            420                 425                 430

Cys Leu Pro Cys Phe Cys Met Gly Ile Thr Gln Gln Cys Ala Ser Ser
        435                 440                 445

Ala Tyr Thr Arg His Leu Ile Ser Thr His Phe Ala Pro Gly Asp Phe
    450                 455                 460

Gln Gly Phe Ala Leu Val Asn Pro Gln Arg Asn Ser Arg Leu Thr Gly
465                 470                 475                 480

Glu Phe Thr Val Glu Pro Val Pro Glu Gly Ala Gln Leu Ser Phe Gly
                485                 490                 495

Asn Phe Ala Gln Leu Gly His Glu Ser Phe Tyr Trp
            500                 505


<210> 4
<211> 199
<212> PRT
<213> Homo sapiens

<400> 4
Met Lys Trp Val Trp Ala Leu Leu Leu Leu Ala Ala Trp Ala Ala Ala
  1               5                  10                  15

Glu Arg Asp Cys Arg Val Ser Ser Phe Arg Val Lys Glu Asn Phe Asp
             20                  25                  30

Lys Ala Arg Phe Ser Gly Thr Trp Tyr Ala Met Ala Lys Lys Asp Pro
         35                  40                  45

Glu Gly Leu Phe Leu Gln Asp Asn Ile Val Ala Glu Phe Ser Val Asp
     50                  55                  60

Glu Thr Gly Gln Met Ser Ala Thr Ala Lys Gly Arg Val Arg Leu Leu
 65                  70                  75                  80
```

Asn Asn Trp Asp Val Cys Ala Asp Met Val Gly Thr Phe Thr Asp Thr
85 90 95

Glu Asp Pro Ala Lys Phe Lys Met Lys Tyr Trp Gly Val Ala Ser Phe
100 105 110

Leu Gln Lys Gly Asn Asp Asp His Trp Ile Val Asp Thr Asp Tyr Asp
115 120 125

Thr Tyr Ala Val Gln Tyr Ser Cys Arg Leu Leu Asn Leu Asp Gly Thr
130 135 140

Cys Ala Asp Ser Tyr Ser Phe Val Phe Ser Arg Asp Pro Asn Gly Leu
145 150 155 160

Pro Pro Glu Ala Gln Lys Ile Val Arg Gln Arg Gln Glu Glu Leu Cys
165 170 175

Leu Ala Arg Gln Tyr Arg Leu Ile Val His Asn Gly Tyr Cys Asp Gly
180 185 190

Arg Ser Glu Arg Asn Leu Leu
195

<210> 5
<211> 199
<212> PRT
<213> Homo sapiens

<400> 5
Met Lys Trp Val Trp Ala Leu Leu Leu Leu Ala Ala Trp Ala Ala Ala
1 5 10 15

Glu Arg Asp Cys Arg Val Ser Ser Phe Arg Val Lys Glu Asn Phe Asp
20 25 30

Lys Ala Arg Phe Ser Gly Thr Trp Tyr Ala Met Ala Lys Lys Asp Pro
35 40 45

Glu Gly Leu Phe Leu Gln Asp Asn Ile Val Ala Glu Phe Ser Val Asp
50 55 60

Glu Thr Gly Gln Met Ser Ala Thr Ala Lys Gly Arg Val Arg Leu Leu
65 70 75 80

Asn Asn Trp Asp Val Cys Ala Asp Met Val Gly Thr Phe Thr Asp Thr
85 90 95

Glu Asp Pro Ala Lys Phe Lys Met Lys Tyr Trp Gly Val Ala Ser Phe
100 105 110

Leu Gln Lys Gly Asn Asp Asp His Trp Ile Val Asp Thr Asp Tyr Asp
115 120 125

Thr Tyr Ala Val Gln Tyr Ser Cys Arg Leu Leu Asn Leu Asp Gly Thr
130 135 140

Cys Ala Asp Ser Tyr Ser Phe Val Phe Ser Arg Asp Pro Asn Gly Leu
145 150 155 160

```
Pro Pro Glu Ala Gln Lys Ile Val Arg Gln Arg Gln Glu Glu Leu Cys
                165                 170                 175

Leu Ala Arg Gln Tyr Arg Leu Ile Val His Asn Gly Tyr Cys Asp Gly
            180                 185                 190

Arg Ser Glu Arg Asn Leu Leu
        195
```

<210> 6
<211> 199
<212> PRT
<213> Homo sapiens

<400> 6

```
Met Lys Trp Val Trp Ala Leu Leu Leu Leu Ala Ala Trp Ala Ala Ala
  1               5                  10                  15

Glu Arg Asp Cys Arg Val Ser Ser Phe Arg Val Lys Glu Asn Phe Asp
             20                  25                  30

Lys Ala Arg Phe Ser Gly Thr Trp Tyr Ala Met Ala Lys Lys Asp Pro
         35                  40                  45

Glu Gly Leu Phe Leu Gln Asp Asn Ile Val Ala Glu Phe Ser Val Asp
     50                  55                  60

Glu Thr Gly Gln Met Ser Ala Thr Ala Lys Gly Arg Val Arg Leu Leu
 65                  70                  75                  80

Asn Asn Trp Asp Val Cys Ala Asp Met Val Gly Thr Phe Thr Asp Thr
                 85                  90                  95

Glu Asp Pro Ala Lys Phe Lys Met Lys Tyr Trp Gly Val Ala Ser Phe
            100                 105                 110

Leu Gln Lys Gly Asn Asp Asp His Trp Ile Val Asp Thr Asp Tyr Asp
        115                 120                 125

Thr Tyr Ala Val Gln Tyr Ser Cys Arg Leu Leu Asn Leu Asp Gly Thr
    130                 135                 140

Cys Ala Asp Ser Tyr Ser Phe Val Phe Ser Arg Asp Pro Asn Gly Leu
145                 150                 155                 160

Pro Pro Glu Ala Gln Lys Ile Val Arg Gln Arg Gln Glu Glu Leu Cys
                165                 170                 175

Leu Ala Arg Gln Tyr Arg Leu Ile Val His Asn Gly Tyr Cys Asp Gly
            180                 185                 190

Arg Ser Glu Arg Asn Leu Leu
        195
```

<210> 7
<211> 182
<212> PRT
<213> Homo sapiens

<400> 7
Glu Arg Asp Cys Arg Val Ser Ser Phe Arg Val Lys Glu Asn Phe Asp
1 5 10 15

Lys Ala Arg Phe Ser Gly Thr Trp Tyr Ala Met Ala Lys Lys Asp Pro
20 25 30

Glu Gly Leu Phe Leu Gln Asp Asn Ile Val Ala Glu Phe Ser Val Asp
35 40 45

Glu Thr Gly Gln Met Ser Ala Thr Ala Lys Gly Arg Val Arg Leu Leu
50 55 60

Asn Asn Trp Asp Val Cys Ala Asp Met Val Gly Thr Phe Thr Asp Thr
65 70 75 80

Glu Asp Pro Ala Lys Phe Lys Met Lys Tyr Trp Gly Val Ala Ser Phe
85 90 95

Leu Gln Lys Gly Asn Asp Asp His Trp Ile Val Asp Thr Asp Tyr Asp
100 105 110

Thr Tyr Ala Val Gln Tyr Ser Cys Arg Leu Leu Asn Leu Asp Gly Thr
115 120 125

Cys Ala Asp Ser Tyr Ser Phe Val Phe Ser Arg Asp Pro Asn Gly Leu
130 135 140

Pro Pro Glu Ala Gln Lys Ile Val Arg Gln Arg Gln Glu Glu Leu Cys
145 150 155 160

Leu Ala Arg Gln Tyr Arg Leu Ile Val His Asn Gly Tyr Cys Asp Gly
165 170 175

Arg Ser Glu Arg Asn Leu
180

<210> 8
<211> 193
<212> PRT
<213> Homo sapiens

<400> 8
Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
1 5 10 15

Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
20 25 30

Ser Phe Ser Trp Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val Ile
35 40 45

Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val
50 55 60

Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu
65 70 75 80

Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys
85 90 95

```
Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys
            100                 105                 110

Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro
        115                 120                 125

Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr
    130                 135                 140

Tyr Ser Leu Pro Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu Pro
145                 150                 155                 160

Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser
                165                 170                 175

Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly
            180                 185                 190

Ile
```

<210> 9
<211> 193
<212> PRT
<213> Homo sapiens

<400> 9

```
Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
  1               5                  10                  15

Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
            20                  25                  30

Ser Phe Ser Trp Asp Asn Cys Phe Glu Gly Lys Asp Pro Ala Val Ile
        35                  40                  45

Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val
    50                  55                  60

Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu
65                  70                  75                  80

Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys
                85                  90                  95

Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys
            100                 105                 110

Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro
        115                 120                 125

Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr
    130                 135                 140

Tyr Ser Leu Pro Lys Ser Glu Phe Ala Val Pro Asp Leu Glu Leu Pro
145                 150                 155                 160

Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser
                165                 170                 175
```

```
Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly
            180                 185                 190

Ile
```

<210> 10
<211> 178
<212> PRT
<213> Homo sapiens

<400> 10

```
Leu Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu
  1               5                  10                  15

Ser Ser Phe Ser Trp Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val
             20                  25                  30

Ile Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn
         35                  40                  45

Val Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro
     50                  55                  60

Leu Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile
 65                  70                  75                  80

Lys Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe
                 85                  90                  95

Cys Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu
            100                 105                 110

Pro Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly
        115                 120                 125

Thr Tyr Ser Leu Pro Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu
    130                 135                 140

Pro Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser
145                 150                 155                 160

Ser Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys
                165                 170                 175

Gly Ile
```

<210> 11
<211> 200
<212> PRT
<213> Homo sapiens

<400> 11

```
Arg Ala Gly Pro Pro Phe Pro Met Gln Ser Leu Met Gln Ala Pro Leu
  1               5                  10                  15

Leu Ile Ala Leu Gly Leu Leu Leu Ala Ala Pro Ala Gln Ala His Leu
```

```
            20                  25                  30

Lys Lys Pro Ser Gln Leu Ser Ser Phe Ser Trp Asp Asn Cys Asp Glu
         35                  40                  45

Gly Lys Asp Pro Ala Val Ile Arg Ser Leu Thr Leu Glu Pro Asp Pro
     50                  55                  60

Ile Ile Val Pro Gly Asn Val Thr Leu Ser Val Met Gly Ser Thr Ser
 65                  70                  75                  80

Val Pro Leu Ser Ser Pro Leu Lys Val Asp Leu Val Leu Glu Lys Glu
                 85                  90                  95

Val Ala Gly Leu Trp Ile Lys Ile Pro Cys Thr Asp Tyr Ile Gly Ser
            100                 105                 110

Cys Thr Phe Glu His Phe Cys Asp Val Leu Asp Met Leu Ile Pro Thr
        115                 120                 125

Gly Glu Pro Cys Pro Glu Pro Leu Arg Thr Tyr Gly Leu Pro Cys His
    130                 135                 140

Cys Pro Phe Lys Glu Gly Thr Tyr Ser Leu Pro Lys Ser Glu Phe Val
145                 150                 155                 160

Val Pro Asp Leu Glu Leu Pro Ser Trp Leu Thr Thr Gly Asn Tyr Arg
                165                 170                 175

Ile Glu Ser Val Leu Ser Ser Ser Gly Lys Arg Leu Gly Cys Ile Lys
            180                 185                 190

Ile Ala Ala Ser Leu Lys Gly Ile
        195                 200


<210> 12
<211> 189
<212> PRT
<213> Homo sapiens

<400> 12
Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu Leu Ala Thr Pro
  1               5                  10                  15

Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser Ser Phe Ser Trp
             20                  25                  30

Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val Ile Arg Ser Leu Thr
         35                  40                  45

Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val Thr Leu Ser Val
     50                  55                  60

Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu Lys Val Asp Leu
 65                  70                  75                  80

Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys Ile Pro Cys Thr
                 85                  90                  95

Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys Asp Val Leu Asp
```

```
            100                 105                 110

Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro Leu Arg Thr Tyr
        115                 120                 125

Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr Tyr Ser Leu Pro
    130                 135                 140

Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu Pro Ser Trp Leu Thr
145                 150                 155                 160

Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser Ser Gly Lys Arg
                165                 170                 175

Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly Ile
            180                 185
```

<210> 13
<211> 193
<212> PRT
<213> Homo sapiens

<400> 13

```
Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
  1               5                  10                  15

Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
             20                  25                  30

Ser Phe Ser Trp Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val Ile
         35                  40                  45

Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val
     50                  55                  60

Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu
 65                  70                  75                  80

Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys
                 85                  90                  95

Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys
            100                 105                 110

Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro
        115                 120                 125

Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr
    130                 135                 140

Tyr Ser Leu Pro Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu Pro
145                 150                 155                 160

Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser
                165                 170                 175

Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly
            180                 185                 190

Ile
```

<210> 14
<211> 193
<212> PRT
<213> Homo sapiens

<400> 14
Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
1 5 10 15

Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
20 25 30

Ser Phe Ser Trp Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val Ile
35 40 45

Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val
50 55 60

Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu
65 70 75 80

Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys
85 90 95

Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys
100 105 110

Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro
115 120 125

Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr
130 135 140

Tyr Ser Leu Pro Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu Pro
145 150 155 160

Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser
165 170 175

Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly
180 185 190

Ile

<210> 15
<211> 193
<212> PRT
<213> Homo sapiens

<400> 15
Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
1 5 10 15

Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
20 25 30

```
Ser Phe Ser Trp Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val Ile
         35                  40                  45

Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val
     50                  55                  60

Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu
 65                  70                  75                  80

Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys
                 85                  90                  95

Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys
            100                 105                 110

Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro
        115                 120                 125

Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr
    130                 135                 140

Tyr Ser Leu Pro Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu Pro
145                 150                 155                 160

Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser
                165                 170                 175

Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly
            180                 185                 190

Ile
```

<210> 16
<211> 193
<212> PRT
<213> Homo sapiens

<400> 16

```
Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
  1               5                  10                  15

Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
             20                  25                  30

Ser Phe Ser Trp Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val Ile
         35                  40                  45

Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val
     50                  55                  60

Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu
 65                  70                  75                  80

Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys
                 85                  90                  95

Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys
            100                 105                 110
```

```
Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro
        115                 120                 125

Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr
    130                 135                 140

Tyr Ser Leu Pro Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu Pro
145                 150                 155                 160

Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser
                165                 170                 175

Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly
            180                 185                 190

Ile
```

<210> 17
<211> 114
<212> PRT
<213> Homo sapiens

<400> 17

```
Met Thr Cys Lys Met Ser Gln Leu Glu Arg Asn Ile Glu Thr Ile Ile
  1               5                  10                  15

Asn Thr Phe His Gln Tyr Ser Val Lys Leu Gly His Pro Asp Thr Leu
            20                  25                  30

Asn Gln Gly Glu Phe Lys Glu Leu Val Arg Lys Asp Leu Gln Asn Phe
        35                  40                  45

Leu Lys Lys Glu Asn Lys Asn Glu Lys Val Ile Glu His Ile Met Glu
    50                  55                  60

Asp Leu Asp Thr Asn Ala Asp Lys Gln Leu Ser Phe Glu Glu Phe Ile
65                  70                  75                  80

Met Leu Met Ala Arg Leu Thr Trp Ala Ser His Glu Lys Met His Glu
                85                  90                  95

Gly Asp Glu Gly Pro Gly His His His Lys Pro Gly Leu Gly Glu Gly
            100                 105                 110

Thr Pro
```

<210> 18
<211> 93
<212> PRT
<213> Homo sapiens

<400> 18

```
Met Leu Thr Glu Leu Glu Lys Ala Leu Asn Ser Ile Ile Asp Val Tyr
  1               5                  10                  15

His Lys Tyr Ser Leu Ile Lys Gly Asn Phe His Ala Val Tyr Arg Asp
            20                  25                  30
```

Asp Leu Lys Lys Leu Leu Glu Thr Glu Cys Pro Gln Tyr Ile Arg Lys
35 40 45

Lys Gly Ala Asp Val Trp Phe Lys Glu Leu Asp Ile Asn Thr Asp Gly
50 55 60

Ala Val Asn Phe Gln Glu Phe Leu Ile Leu Val Ile Lys Met Gly Val
65 70 75 80

Ala Ala His Lys Lys Ser His Glu Glu Ser His Lys Glu
85 90

<210> 19
<211> 92
<212> PRT
<213> Homo sapiens

<400> 19
Met Thr Lys Leu Glu Glu His Leu Glu Gly Ile Val Asn Ile Phe His
1 5 10 15

Gln Tyr Ser Val Arg Lys Gly His Phe Asp Thr Leu Ser Lys Gly Glu
20 25 30

Leu Lys Gln Leu Leu Thr Lys Glu Leu Ala Asn Thr Ile Lys Asn Ile
35 40 45

Lys Asp Lys Ala Val Ile Asp Glu Ile Phe Gln Gly Leu Asp Ala Asn
50 55 60

Gln Asp Glu Gln Val Asp Phe Gln Glu Phe Ile Ser Leu Val Ala Ile
65 70 75 80

Ala Leu Lys Ala Ala His Tyr His Thr His Lys Glu
85 90

<210> 20
<211> 92
<212> PRT
<213> Homo sapiens

<400> 20
Met Thr Lys Leu Glu Glu His Leu Glu Gly Ile Val Asn Ile Phe His
1 5 10 15

Gln Tyr Ser Val Arg Lys Gly His Phe Asp Thr Leu Ser Lys Gly Glu
20 25 30

Leu Lys Gln Leu Leu Thr Lys Glu Leu Ala Asn Thr Ile Lys Asn Ile
35 40 45

Lys Asp Lys Ala Val Ile Asp Glu Ile Phe Gln Gly Leu Asp Ala Asn
50 55 60

Gln Asp Glu Gln Val Asp Phe Gln Glu Phe Ile Ser Leu Val Ala Ile
65 70 75 80

Ala Leu Lys Ala Ala His Tyr His Thr His Lys Glu

85 90

<210> 21
<211> 91
<212> PRT
<213> Homo sapiens

<400> 21
Thr Lys Leu Glu Glu His Leu Glu Gly Ile Val Asn Ile Phe His Gln
1 5 10 15

Tyr Ser Val Arg Lys Gly His Phe Asp Thr Leu Ser Lys Gly Glu Leu
20 25 30

Lys Gln Leu Leu Thr Lys Glu Leu Ala Asn Thr Ile Lys Asn Ile Lys
35 40 45

Asp Lys Ala Val Ile Asp Glu Ile Phe Gln Gly Leu Asp Ala Asn Gln
50 55 60

Asp Glu Gln Val Asp Phe Gln Glu Phe Ile Ser Leu Val Ala Ile Ala
65 70 75 80

Leu Lys Ala Ala His Tyr His Thr His Lys Glu
85 90

<210> 22
<211> 93
<212> PRT
<213> Homo sapiens

<400> 22
Met Leu Thr Glu Leu Glu Lys Ala Leu Asn Ser Ile Ile Asp Val Tyr
1 5 10 15

His Lys Tyr Ser Leu Ile Lys Gly Asn Phe His Ala Val Tyr Arg Asp
20 25 30

Asp Leu Lys Lys Leu Leu Glu Thr Glu Cys Pro Gln Tyr Ile Arg Lys
35 40 45

Lys Gly Ala Asp Val Trp Phe Lys Glu Leu Asp Ile Asn Thr Asp Gly
50 55 60

Ala Val Asn Phe Gln Glu Phe Leu Ile Leu Val Ile Lys Met Gly Val
65 70 75 80

Ala Ala His Lys Lys Ser His Glu Glu Ser His Lys Glu
85 90

<210> 23
<211> 92
<212> PRT
<213> Homo sapiens

<400> 23
Met Thr Lys Leu Glu Glu His Leu Glu Gly Ile Val Asn Ile Phe His
1 5 10 15

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Gln Tyr Ser Val Arg Lys Gly His Phe Asp Thr Leu Ser Lys Gly Glu
            20                  25                  30

Leu Lys Gln Leu Leu Thr Lys Glu Leu Ala Asn Thr Ile Lys Asn Ile
        35                  40                  45

Lys Asp Lys Ala Val Ile Asp Glu Ile Phe Gln Gly Leu Asp Ala Asn
    50                  55                  60

Gln Asp Glu Gln Val Asp Phe Gln Glu Phe Ile Ser Leu Val Ala Ile
65                  70                  75                  80

Ala Leu Lys Ala Ala His Tyr His Thr His Lys Glu
                85                  90
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<210> 24
<211> 85
<212> PRT
<213> Homo sapiens

<400> 24

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Asp Asn Gly Asp Val Cys Gln Asp Cys Ile Gln Met Val Thr Asp Ile
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Gln Thr Ala Val Arg Thr Asn Ser Thr Phe Val Gln Ala Leu Val Glu
            20                  25                  30

His Val Lys Glu Glu Cys Asp Arg Leu Gly Pro Gly Met Ala Asp Ile
        35                  40                  45

Cys Lys Asn Tyr Ile Ser Gln Tyr Ser Glu Ile Ala Ile Gln Met Met
    50                  55                  60

Met His Met Gln Asp Gln Gln Pro Lys Glu Ile Cys Ala Leu Val Gly
65                  70                  75                  80

Phe Cys Asp Glu Val
                85
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<210> 25
<211> 381
<212> PRT
<213> Homo sapiens

<400> 25

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Met Ala Glu Ser His Leu Leu Gln Trp Leu Leu Leu Leu Leu Pro Thr
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Leu Cys Gly Pro Gly Thr Ala Ala Trp Thr Thr Ser Ser Leu Ala Cys
            20                  25                  30

Ala Gln Gly Pro Glu Phe Trp Cys Gln Ser Leu Glu Gln Ala Leu Gln
        35                  40                  45

Cys Arg Ala Leu Gly His Cys Leu Gln Glu Val Trp Gly His Val Gly
    50                  55                  60

Ala Asp Asp Leu Cys Gln Glu Cys Glu Asp Ile Val His Ile Leu Asn
```

```
 65                  70                  75                  80

Lys Met Ala Lys Glu Ala Ile Phe Gln Asp Thr Met Arg Lys Phe Leu
                85                  90                  95

Glu Gln Glu Cys Asn Val Leu Pro Leu Lys Leu Leu Met Pro Gln Cys
            100                 105                 110

Asn Gln Val Leu Asp Asp Tyr Phe Pro Leu Val Ile Asp Tyr Phe Gln
        115                 120                 125

Asn Gln Ile Asp Ser Asn Gly Ile Cys Met His Leu Gly Leu Cys Lys
    130                 135                 140

Ser Arg Gln Pro Glu Pro Glu Gln Glu Pro Gly Met Ser Asp Pro Leu
145                 150                 155                 160

Pro Lys Pro Leu Arg Asp Pro Leu Pro Asp Pro Leu Leu Asp Lys Leu
                165                 170                 175

Val Leu Pro Val Leu Pro Gly Ala Leu Gln Ala Arg Pro Gly Pro His
            180                 185                 190

Thr Gln Asp Leu Ser Glu Gln Gln Phe Pro Ile Pro Leu Pro Tyr Cys
        195                 200                 205

Trp Leu Cys Arg Ala Leu Ile Lys Arg Ile Gln Ala Met Ile Pro Lys
    210                 215                 220

Gly Ala Leu Arg Val Ala Val Ala Gln Val Cys Arg Val Val Pro Leu
225                 230                 235                 240

Val Ala Gly Gly Ile Cys Gln Cys Leu Ala Glu Arg Tyr Ser Val Ile
                245                 250                 255

Leu Leu Asp Thr Leu Leu Gly Arg Met Leu Pro Gln Leu Val Cys Arg
            260                 265                 270

Leu Val Leu Arg Cys Ser Met Asp Asp Ser Ala Gly Pro Arg Ser Pro
        275                 280                 285

Thr Gly Glu Trp Leu Pro Arg Asp Ser Glu Cys His Leu Cys Met Ser
    290                 295                 300

Val Thr Thr Gln Ala Gly Asn Ser Ser Glu Gln Ala Ile Pro Gln Ala
305                 310                 315                 320

Met Leu Gln Ala Cys Val Gly Ser Trp Leu Asp Arg Glu Lys Cys Lys
                325                 330                 335

Gln Phe Val Glu Gln His Thr Pro Gln Leu Leu Thr Leu Val Pro Arg
            340                 345                 350

Gly Trp Asp Ala His Thr Thr Cys Gln Ala Leu Gly Val Cys Gly Thr
        355                 360                 365

Met Ser Ser Pro Leu Gln Cys Ile His Ser Pro Asp Leu
    370                 375                 380
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<210> 26

<211> 379
<212> PRT
<213> Homo sapiens

<400> 26

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Met Ala Glu Ser His Leu Leu Gln Trp Leu Leu Leu Leu Leu Pro Thr
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Leu Cys Gly Pro Gly Thr Ala Ala Trp Thr Thr Ser Ser Leu Ala Cys
             20                  25                  30

Ala Gln Gly Pro Glu Phe Trp Cys Gln Ser Leu Glu Gln Ala Leu Gln
         35                  40                  45

Cys Arg Ala Leu Gly His Cys Leu Gln Glu Val Trp Gly His Val Gly
     50                  55                  60

Ala Asp Asp Leu Cys Gln Glu Cys Glu Asp Ile Val His Ile Leu Asn
 65                  70                  75                  80

Lys Met Ala Lys Glu Ala Ile Phe Gln Asp Thr Met Arg Lys Phe Leu
                 85                  90                  95

Glu Gln Glu Cys Asn Val Leu Pro Leu Lys Leu Leu Met Pro Gln Cys
            100                 105                 110

Asn Gln Val Leu Asp Asp Tyr Phe Pro Leu Val Ile Asp Tyr Phe Gln
        115                 120                 125

Asn Gln Thr Asp Ser Asn Gly Ile Cys Met His Leu Gly Cys Lys Ser
    130                 135                 140

Arg Gln Pro Glu Pro Glu Gln Glu Pro Gly Met Ser Asp Pro Leu Pro
145                 150                 155                 160

Lys Pro Leu Arg Asp Pro Leu Pro Asp Pro Leu Leu Asp Lys Leu Val
                165                 170                 175

Leu Pro Val Leu Pro Gly Ala Leu Gln Ala Arg Pro Gly Pro His Thr
            180                 185                 190

Gln Asp Leu Ser Glu Gln Gln Phe Pro Ile Pro Leu Pro Tyr Cys Trp
        195                 200                 205

Cys Arg Ala Leu Ile Lys Arg Ile Gln Ala Met Ile Pro Lys Gly Ala
    210                 215                 220

Leu Arg Val Ala Val Ala Gln Val Cys Arg Val Val Pro Leu Val Ala
225                 230                 235                 240

Gly Gly Ile Cys Gln Cys Leu Ala Glu Arg Tyr Ser Val Ile Leu Leu
                245                 250                 255

Asp Thr Leu Leu Gly Arg Met Leu Pro Gln Leu Val Cys Arg Leu Val
            260                 265                 270

Leu Arg Cys Ser Met Asp Asp Ser Ala Gly Pro Arg Ser Pro Thr Gly
        275                 280                 285

Glu Trp Leu Pro Arg Asp Ser Glu Cys His Leu Cys Met Ser Val Thr
    290                 295                 300
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```
Thr Gln Ala Gly Asn Ser Ser Glu Gln Ala Ile Pro Gln Ala Met Leu
305                 310                 315                 320

Gln Ala Cys Val Gly Ser Trp Leu Asp Arg Glu Lys Cys Lys Gln Phe
                325                 330                 335

Val Glu Gln His Thr Pro Gln Leu Leu Thr Leu Val Pro Arg Gly Trp
            340                 345                 350

Asp Ala His Thr Thr Cys Gln Ala Leu Gly Val Cys Gly Thr Met Ser
        355                 360                 365

Ser Pro Leu Gln Cys Ile His Ser Pro Asp Leu
    370                 375


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<211> 527
<212> PRT
<213> Homo sapiens

<400> 27
Met Tyr Ala Leu Phe Leu Leu Ala Ser Leu Leu Gly Ala Ala Leu Ala
  1               5                  10                  15

Gly Pro Val Leu Gly Leu Lys Glu Cys Thr Arg Gly Ser Ala Val Trp
            20                  25                  30

Cys Gln Asn Val Lys Thr Ala Ser Asp Cys Gly Ala Val Lys His Cys
        35                  40                  45

Leu Gln Thr Val Trp Asn Lys Pro Thr Val Lys Ser Leu Pro Cys Asp
    50                  55                  60

Ile Cys Lys Asp Val Val Thr Ala Ala Gly Asp Met Leu Lys Asp Asn
65                  70                  75                  80

Ala Thr Glu Glu Glu Ile Leu Val Tyr Leu Glu Lys Thr Cys Asp Trp
                85                  90                  95

Leu Pro Lys Pro Asn Met Ser Ala Ser Cys Lys Glu Ile Val Asp Ser
            100                 105                 110

Tyr Leu Pro Val Ile Leu Asp Ile Ile Lys Gly Glu Met Ser Arg Pro
        115                 120                 125

Gly Glu Val Cys Ser Ala Leu Asn Leu Cys Glu Ser Leu Gln Lys His
    130                 135                 140

Leu Ala Glu Leu Asn His Gln Lys Gln Leu Glu Ser Asn Lys Ile Pro
145                 150                 155                 160

Glu Leu Asp Met Thr Glu Val Val Ala Pro Phe Met Ala Asn Ile Pro
                165                 170                 175

Leu Leu Leu Tyr Pro Gln Asp Gly Pro Arg Ser Lys Pro Gln Pro Lys
            180                 185                 190

Asp Asn Gly Asp Val Cys Gln Asp Cys Ile Gln Met Val Thr Asp Ile
        195                 200                 205
```

```
Gln Thr Ala Val Arg Thr Asn Ser Thr Phe Val Gln Ala Leu Val Glu
    210                 215                 220

His Val Lys Glu Glu Cys Asp Arg Leu Gly Pro Gly Met Ala Asp Ile
225                 230                 235                 240

Cys Lys Asn Tyr Ile Ser Gln Tyr Ser Glu Ile Ala Ile Gln Met Met
                245                 250                 255

Met His Met Gln Asp Gln Gln Pro Lys Glu Ile Cys Ala Leu Val Gly
            260                 265                 270

Phe Cys Asp Glu Val Lys Glu Met Pro Met Gln Thr Leu Val Pro Ala
        275                 280                 285

Lys Val Ala Ser Lys Asn Val Ile Pro Ala Leu Glu Leu Val Glu Pro
    290                 295                 300

Ile Lys Lys His Glu Val Pro Ala Lys Ser Asp Val Tyr Cys Glu Val
305                 310                 315                 320

Cys Glu Phe Leu Val Lys Glu Val Thr Lys Leu Ile Asp Asn Asn Lys
                325                 330                 335

Thr Glu Lys Glu Ile Leu Asp Ala Phe Asp Lys Met Cys Ser Lys Leu
            340                 345                 350

Pro Lys Ser Leu Ser Glu Glu Cys Gln Glu Val Val Asp Thr Tyr Gly
        355                 360                 365

Ser Ser Ile Leu Ser Ile Leu Leu Glu Glu Val Ser Pro Glu Leu Val
    370                 375                 380

Cys Ser Met Leu His Leu Cys Ser Gly Thr Arg Leu Pro Ala Leu Thr
385                 390                 395                 400

Val His Val Thr Gln Pro Lys Asp Gly Gly Phe Cys Glu Val Cys Lys
                405                 410                 415

Lys Leu Val Gly Tyr Leu Asp Arg Asn Leu Glu Lys Asn Ser Thr Lys
            420                 425                 430

Gln Glu Ile Leu Ala Ala Leu Glu Lys Gly Cys Ser Phe Leu Pro Asp
        435                 440                 445

Pro Tyr Gln Lys Gln Cys Asp Gln Phe Val Ala Glu Tyr Glu Pro Val
    450                 455                 460

Leu Ile Glu Ile Leu Val Glu Val Met Asp Pro Ser Phe Val Cys Leu
465                 470                 475                 480

Lys Ile Gly Ala Cys Pro Ser Ala His Lys Pro Leu Leu Gly Thr Glu
                485                 490                 495

Lys Cys Ile Trp Gly Pro Ser Tyr Trp Cys Gln Asn Thr Glu Thr Ala
            500                 505                 510

Ala Gln Cys Asn Ala Val Glu His Cys Lys Arg His Val Trp Asn
        515                 520                 525
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<210> 28
<211> 523
<212> PRT
<213> Homo sapiens

<400> 28

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Met Tyr Ala Leu Phe Leu Leu Ala Ser Leu Leu Gly Ala Ala Leu Ala
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Gly Pro Val Leu Gly Leu Lys Glu Cys Thr Arg Gly Ser Ala Val Trp
             20                  25                  30

Cys Gln Asn Val Lys Thr Ala Ser Asp Cys Gly Ala Val Lys His Cys
         35                  40                  45

Leu Gln Thr Val Trp Asn Lys Pro Thr Val Lys Ser Leu Pro Cys Asp
     50                  55                  60

Ile Cys Lys Asp Val Val Thr Ala Ala Gly Asp Met Leu Lys Asp Asn
 65                  70                  75                  80

Ala Thr Glu Glu Glu Ile Leu Val Tyr Leu Glu Lys Thr Cys Asp Trp
                 85                  90                  95

Leu Pro Lys Pro Asn Met Ser Ala Ser Cys Lys Glu Ile Val Asp Ser
            100                 105                 110

Tyr Leu Pro Val Ile Leu Asp Ile Ile Lys Gly Glu Met Ser Arg Pro
        115                 120                 125

Gly Glu Val Cys Ser Ala Leu Leu Cys Glu Ser Leu Gln Lys His Leu
    130                 135                 140

Ala Glu Leu Asn His Gln Lys Gln Leu Glu Ser Asn Lys Ile Pro Glu
145                 150                 155                 160

Leu Asp Met Thr Glu Val Val Ala Pro Phe Met Ala Asn Ile Pro Leu
                165                 170                 175

Leu Leu Tyr Pro Gln Asp Gly Pro Arg Ser Lys Pro Gln Pro Lys Asp
            180                 185                 190

Asn Gly Asp Val Cys Gln Asp Cys Ile Gln Met Val Thr Asp Ile Gln
        195                 200                 205

Thr Ala Val Arg Thr Asn Ser Thr Phe Val Gln Ala Leu Val Glu His
    210                 215                 220

Val Lys Glu Glu Cys Asp Arg Leu Gly Pro Gly Met Ala Asp Ile Cys
225                 230                 235                 240

Lys Asn Tyr Ile Ser Gln Tyr Ser Glu Ile Ala Ile Gln Met Met Met
                245                 250                 255

His Met Gln Pro Lys Glu Ile Cys Ala Leu Val Gly Phe Cys Asp Glu
            260                 265                 270

Val Lys Glu Met Pro Met Gln Thr Leu Val Pro Ala Lys Val Ala Ser
        275                 280                 285
```

```
Lys Asn Val Ile Pro Ala Leu Glu Leu Val Glu Pro Ile Lys Lys His
    290                 295                 300

Glu Val Pro Ala Lys Ser Asp Val Tyr Cys Glu Val Cys Glu Phe Leu
305                 310                 315                 320

Val Lys Glu Val Thr Lys Leu Ile Asp Asn Asn Lys Thr Glu Lys Glu
                325                 330                 335

Ile Leu Asp Ala Phe Asp Lys Met Cys Ser Lys Leu Pro Lys Ser Leu
            340                 345                 350

Ser Glu Glu Cys Gln Glu Val Val Asp Thr Tyr Gly Ser Ser Ile Leu
        355                 360                 365

Ser Ile Leu Leu Glu Glu Val Ser Pro Glu Leu Val Cys Ser Met Leu
    370                 375                 380

His Leu Cys Ser Gly Thr Arg Leu Pro Ala Leu Thr Val His Val Thr
385                 390                 395                 400

Gln Pro Lys Asp Gly Gly Phe Cys Glu Val Cys Lys Lys Leu Val Gly
                405                 410                 415

Tyr Leu Asp Arg Asn Leu Glu Lys Asn Ser Thr Lys Gln Glu Ile Leu
            420                 425                 430

Ala Ala Leu Glu Lys Gly Cys Ser Phe Leu Pro Asp Pro Tyr Gln Lys
        435                 440                 445

Gln Cys Asp Gln Phe Val Ala Glu Tyr Glu Pro Val Leu Ile Glu Ile
    450                 455                 460

Leu Val Glu Val Met Asp Pro Ser Phe Val Cys Leu Lys Ile Gly Ala
465                 470                 475                 480

Cys Pro Ser Ala His Lys Pro Leu Leu Gly Thr Glu Lys Cys Ile Trp
                485                 490                 495

Gly Pro Ser Tyr Trp Cys Gln Asn Thr Glu Thr Ala Ala Gln Cys Asn
            500                 505                 510

Ala Val Glu His Cys Lys Arg His Val Trp Asn
        515                 520


<210> 29
<211> 380
<212> PRT
<213> Homo sapiens

<400> 29
Met Ala Glu Ser His Leu Leu Gln Trp Leu Leu Leu Leu Leu Pro Thr
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Leu Cys Gly Pro Gly Thr Ala Ala Trp Thr Thr Ser Ser Leu Ala Cys
             20                  25                  30

Ala Gln Gly Pro Glu Phe Trp Cys Gln Ser Leu Glu Gln Ala Leu Gln
         35                  40                  45
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Cys Arg Ala Leu Gly His Cys Leu Gln Glu Val Trp Gly His Val Gly
     50                  55                  60

Ala Asp Asp Leu Cys Gln Glu Cys Glu Asp Ile Val His Ile Leu Asn
 65                  70                  75                  80

Lys Met Ala Lys Glu Ala Ile Phe Gln Asp Thr Met Arg Lys Phe Leu
                 85                  90                  95

Glu Gln Glu Cys Asn Val Leu Pro Leu Lys Leu Leu Met Pro Gln Cys
            100                 105                 110

Asn Gln Val Leu Asp Asp Tyr Phe Pro Leu Val Ile Asp Tyr Phe Gln
        115                 120                 125

Asn Gln Thr Asp Ser Asn Gly Ile Cys Met His Gly Leu Cys Lys Ser
    130                 135                 140

Arg Gln Pro Glu Pro Glu Gln Glu Pro Gly Met Ser Asp Pro Leu Pro
145                 150                 155                 160

Lys Pro Leu Arg Asp Pro Leu Pro Asp Pro Leu Leu Asp Lys Leu Val
                165                 170                 175

Leu Pro Val Leu Pro Gly Ala Leu Gln Ala Arg Pro Gly Pro His Thr
            180                 185                 190

Gln Asp Leu Ser Glu Gln Gln Phe Pro Ile Pro Leu Pro Tyr Cys Trp
        195                 200                 205

Leu Cys Arg Ala Leu Ile Lys Arg Ile Gln Ala Met Ile Pro Lys Gly
    210                 215                 220

Ala Leu Ala Val Ala Val Ala Gln Val Cys Arg Val Val Pro Leu Val
225                 230                 235                 240

Ala Gly Gly Ile Cys Gln Cys Leu Ala Glu Arg Tyr Ser Val Ile Leu
                245                 250                 255

Leu Asp Thr Leu Leu Gly Arg Met Leu Pro Gln Leu Val Cys Arg Leu
            260                 265                 270

Val Leu Arg Cys Ser Met Asp Asp Ser Ala Gly Pro Arg Ser Pro Thr
        275                 280                 285

Gly Glu Trp Leu Pro Arg Asp Ser Glu Cys His Leu Cys Met Ser Val
    290                 295                 300

Thr Thr Gln Ala Gly Asn Ser Ser Glu Gln Ala Ile Pro Gln Ala Met
305                 310                 315                 320

Leu Gln Ala Cys Val Gly Ser Trp Leu Asp Arg Glu Lys Cys Lys Gln
                325                 330                 335

Phe Val Glu Gln His Thr Pro Gln Leu Leu Thr Leu Val Pro Arg Gly
            340                 345                 350

Trp Asp Ala His Thr Thr Cys Gln Ala Leu Gly Val Cys Gly Thr Met
        355                 360                 365

Ser Ser Pro Leu Gln Cys Ile His Ser Pro Asp Leu
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370 375 380

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<212> DNA
<213> Homo sapiens

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<211> 406
<212> DNA
<213> Homo sapiens

<400> 45
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<212> DNA
<213> Homo sapiens

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<222> 417
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